

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application

LISTING OF CLAIMS:

1-12. (Cancelled)

13. (Previously Presented) A method of cleaning a substrate of a liquid crystal display panel comprising:

first step, moving the substrate including four side surfaces and upper and lower surfaces continuously in a linear direction;

second step, individually brushing two opposing side surfaces among the four side surfaces of the substrate parallel to the linear direction of the substrate with two cylindrical brushes that rotate based on an axis of rotation, wherein the axis of rotation is substantially parallel to the movement direction of the substrate and the cylindrical brushes are rotated to a direction perpendicular to the movement direction of the substrate;

third step, cleaning the upper and lower surfaces of the substrate with upper and lower brushes; and

fourth step, individually jetting deionized water that carries ultrasonic waves with a pair of jetting devices onto the two opposite side surfaces of the substrate,

wherein cleaning upper and lower surfaces of the substrate, and brushing the side surface of the substrate are simultaneously performed while the substrate is moving continuously in the linear direction, and

wherein the jetting of the jetting devices are respectively performed onto the two opposite side surfaces of the substrate that the brushings of the two opposite side surfaces are performed, after the brushings,

wherein the substrate has a thickness of about 0.7mm.

14-15. (Cancelled)

16. (Previously Presented) The method of claim 13, wherein cleaning the upper and lower surfaces of the substrate comprises:

rotating cleaning brushes on the upper and lower surface of substrate.

17. (Cancelled)

18. (Previously Presented) The method of claim 16, wherein the cleaning brushes are arranged at the upper and lower surfaces of the substrate, respectively.

19-27. (Cancelled)

28. (Previously Presented) A method of cleaning a substrate having including four side surfaces and upper and lower surfaces, the method comprising:

first step, moving the substrate continuously in a linear direction;

second step, individually brushing at least two opposing side surfaces among the four side surfaces of the substrate parallel to the movement direction of the substrate with cleaning brushes that rotate based on an axis of rotation, wherein the axis of rotation is substantially parallel to the movement direction of the substrate and the cylindrical brushes are rotated to a direction perpendicular to the movement direction of the substrate;

third step, cleaning at least one of the upper and lower surfaces; and

fourth step, individually spraying water that carries ultrasonic waves with a pair of spray devices onto the at least two opposite side surfaces of the substrate,

wherein cleaning at least one of the upper and lower surfaces of the substrate, and brushing at least two opposing side surfaces of the substrate are simultaneously performed while the substrate is moving continuously in the linear direction, and

wherein the sprayings of the spray devices are respectively performed onto the two opposite side surfaces of the substrate that the brushings of the two opposite side surfaces are performed, after the brushings,

wherein the substrate has a thickness of about 0.7mm.

29. (Previously Presented) The method of claim 28, further including brushing at least two opposing side surfaces before brushing at least one of the upper and lower surfaces.

30. (Previously Presented) The method of claim 28, wherein the water includes deionized water.

31. (Cancelled)

32. (Previously Presented) The method of claim 28, wherein cleaning at least one of the upper and lower surfaces includes brushing the at least one of the upper and lower surfaces.

33. (Cancelled)

34. (Previously Presented) The method of claim 28, wherein the at least two opposing side surfaces are substantially parallel.

35. (Previously Presented) The method of claim 28, wherein the axis of rotation is substantially parallel to the linear direction of the substrate movement.

36. (Previously Presented) The method of claim 28, further including brushing at least one of the upper and lower surfaces before spraying water that carries ultrasonic waves onto the at least two brushed side surfaces.

37. (Previously Presented) The method of claim 28, further including brushing at least one of the upper and lower surfaces with a plurality of cleaning brushes arranged at each of the at least one of the upper and lower surfaces.

38-44. (Cancelled)

45. (New) A method of cleaning a substrate having including four side surfaces and upper and lower surfaces, the method comprising:

moving first and second opposing side surfaces among the four side surfaces between first and second side brushes to contact first and second opposing side surfaces with the first and second side brushes;

rotating the first and second side brushes by rotation direction perpendicular to the moving direction of the substrate to firstly clean the first and second opposing side surfaces;

continuously moving the upper and lower surfaces between upper and lower brushes to contact the upper and lower surfaces with the upper and lower brushes;

rotating the upper and lower brushes to clean the upper and lower surfaces;

continuously moving first and second opposing side surfaces between first and second jetting devices; and

jetting deionized water that carries ultrasonic waves onto the first and second opposing side surfaces to secondly clean the first and second opposing side surfaces.